

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A system for a dental filling material or an implant material, alternatively a system for bonding between a tooth or a bone and a dental filling material and a implant material, respectively, comprising:

a water based hydration liquid; and

a powdered material, wherein,

said powdered material comprises a binder phase that essentially consists of a calcium aluminate based cement system,

said hydration liquid reacts with the binder phase to form a chemically bonded ceramic material upon saturation of said powdered material with said hydration liquid, and

at least one of said powdered material and said hydration liquid comprises water soluble phosphate or a phase that has the capacity to form water soluble phosphate so that the system has the capacity to form apatite during hydration of said powdered material.

2. (previously presented) The system according to claim 1, wherein the system has the capacity to form, during hydration, 0.01-30 % by volume apatite in the system.

3. (previously presented) The system according to claim 1, wherein the system is a bonding system that has the capacity to form, during hydration, 0.01-60 % by volume apatite in the system.

4. (previously presented) The system according to claim 1, wherein the system has a pH of at least 7.

5. (currently amended) The system according to claim 1, wherein,

the binder phase essentially consists of a fine grain of ~~at least one of 3CaO•Al<sub>2</sub>O<sub>3</sub>, 3CaO•SiO<sub>2</sub>, and 2CaO•SiO<sub>2</sub>~~, having a mean particle size of at most 5 µm, and

the hydration liquid comprises phosphoric acid with tricalcium phosphate.

6-27. (canceled)

28. (withdrawn) An implant material comprising a substrate, wherein said substrate comprises a hydrated coating layer (2) of a system according to claim 1.

29. (withdrawn) The implant material according to claim 28, wherein the coating layer (2) exhibits a thickness of 0.5-20  $\mu\text{m}$ .

30. (withdrawn) The implant material according to claim 28, wherein,

the coating layer (2) exhibits an outer layer (3) of a powdered material, on top of it, and

said powdered material comprises water soluble phosphate or a phase that has the capacity to form water soluble phosphate.

31. (withdrawn) The implant material according to claim 30, wherein the outer layer (3) exhibits a thickness of 0.5-10  $\mu\text{m}$ .

32. (withdrawn) The implant material according to claim 28, wherein a crystal size in the layer (2, 3) is 5  $\mu\text{m}$  at the most.

33. (withdrawn) A method of achieving bonding between a tooth or a bone and a dental filling material and an implant material, respectively, comprising:

applying a bonding system according to claim 1 as dental filling/implant material.

34. (withdrawn) The method according to claim 33, wherein a powdered material and/or a hydration liquid, is used in the bonding system.

35. (withdrawn) The method according to claim 33, wherein the tooth or bone is pre-treated by etching with an etching agent and/or by mechanical coarsening techniques.

36. (withdrawn) The method according to claim 35, wherein said etching agent comprises a phosphate-containing etching agent, preferably an etching agent in the group that consists of phosphoric acid, hydrophosphoric acid, phosphate buffer and citrates.

37. (withdrawn) The method according to claim 33, wherein the bonding system is applied onto the tooth or bone, preferably by painting or spraying, where after said dental filling/implant material is applied outside said bonding system.

38. (withdrawn-currently amended) The method according to claim 37, wherein said dental filling/implant material is chosen to be compatible with the bonding system, said dental filling material/implant material comprising a powdered material, the binder phase of which essentially consisting of a calcium

aluminate based cement system, which powdered material has the capacity following saturation with a hydration liquid reacting with the binder phase to hydrate to a chemically bonded ceramic material, said powdered material and/or said hydration liquid comprising water soluble phosphate or a phase that has the capacity to form water soluble phosphate so that the dental filling material/implant material exhibits the capacity during hydration to form apatite.

39. (currently amended) The system according to claim 1, wherein said calcium aluminate based cement system has a larger mole content of calcium than of aluminium.

40. (currently amended) The system according to claim 1, wherein, said calcium aluminate based cement system further comprises at least one ~~is a cement system selected from the group consisting of aluminates, silicates, phosphates, and sulphates and combinations thereof.~~

41. (previously presented) The system according to claim 1, wherein, said water soluble phosphate is an alkali phosphate.

42. (previously presented) The system according to claim 1, wherein, said powder material has a degree of compaction of at least 55 % by volume solid phase.

43. (previously presented) The system according to claim 1, wherein, said hydration liquid has a pH of at least 7.

44. (previously presented) The system according to claim 1, wherein, said hydration liquid comprises at least one of an accelerator and a superplasticizer.

45. (previously presented) The system according to claim 1, wherein, said powder material has a crystal size of at most 5  $\mu\text{m}$ .

46. (previously presented) The system according to claim 1, wherein, the powdered material comprises the water soluble phosphate or the phase that has the capacity to form water soluble phosphate.

47. (previously presented) The system according to claim 46, wherein, said powder material comprises grains of a phosphate-containing phase.

48. (previously presented) The system according to claim 46, wherein, said powder material comprises high-molecular proteins.

49. (previously presented) The system according to claim 46, wherein, said powder material comprises from 0.5 % and up to 10 % of a fluoride-containing phase of non difficultly soluble character.

50. (previously presented) The system according to claim 46, wherein, said powder material comprises carbonate or biologically existing ions that have the capacity to form at least one salt selected from the group consisting of calcite, aragonite, oxalates, lactates, and citrates.

51. (previously presented) The system according to claim 46, wherein, the phosphate or phosphate-forming phase exists as particles that are precoated by a material comprising phosphate or phosphate-containing phase.

52. (previously presented) The system according to claim 46, wherein, the phosphate or phosphate-forming phase exists by the cement system comprising phosphate-containing phase in solid solution in the cement system.

53. (previously presented) The system according to claim 1, wherein,

the hydration liquid comprises water soluble phosphate or a phase that has the capacity to form water soluble phosphate.

54. (previously presented) The system according to claim 53, wherein, said water soluble phosphate exists as or has the capacity to be formed in an amount of at least 0.01-5 M.

55. (currently amended) The system according to claim 53, wherein, said hydration liquid is a bonding liquid adapted for a bonding system, said water soluble phosphate existing or having the capacity to be formed in an amount of at least 0.01-5 M.

56. (currently amended) The system according to claim 53, wherein, said water soluble phosphate comprises phosphate ions of a form selected from the group consisting of  $\text{PO}_4^{3-}$ ,  $\text{HPO}_4^{2-}$ ,  $\text{H}_2\text{PO}_4^-$ , hydro-ammonium phosphate and other phosphorous-containing ions.

57. (previously presented) The system according to claim 53, wherein, said hydration liquid comprises suspended or emulsified, non hydrated or partially hydrated calcium aluminate cement, for the formation of a basic environment for the apatite.

58. (previously presented) The system according to claim 53, wherein, said hydration liquid comprises carbonate or biologically existing ions that has the capacity to form at least one salt selected from the group consisting of calcite, aragonite, oxalates, lactates, and citrates.

59. (previously presented) The system according to claim 53, wherein, said hydration liquid comprises fluoride ions at a concentration of 0.01-5 M.

60. (currently amended) The system according to claim 1, wherein the system is ~~for an implant material when hydrated to provide and forms~~ a coating layer having thickness of 0.5-20  $\mu\text{m}$ .